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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/624,356

07/21/2003

Aaron Scott Lukas

06336P USA

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EXAMINER

PADGETT, MARIANNE L

ART UNIT

PAPER NUMBER

1762

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/27/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/624,356

Applicant(s)

LUKAS ET AL.

Examiner

Marianne L. Padgett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29, 32-35, 37-45 and 53-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29, 32-35, 37-45, 53-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/12/2006 has been entered.

Applicant's terminal disclaimer has been approved and removed the obviousness double patenting rejection with respect to USPN 6,846,515. It is also noted that SN 10/404,190 has been abandoned, which removes this obviousness double patenting rejection, however SN 10/379,466 has matured into PN 7,098,149, hence converting the rejection from provisional to non-provisional, especially considering further discussion below.

Applicant amendments combined with their declaration by Mark O'Neill, have removed the prior art rejections with respect to a Nakata et al. (2003/0003288 A1 = PN 6,780,498), Raman et al. (5935646) & Albano et al. (2003/0054115 A1), as the discussions with respect to the polymerization techniques relevant to these references shows the presence of Si-OH bonds in materials to be UV treated, which is now excluded by the amendments.

Applicants have amended their claims and added new claims 53-72 for which support is cited on page 13 of the 10/12/2006 response at the beginning of the remarks. Additionally, the examiner notes that when the term "material" is used in the claims, in the independent claims it is always referring to materials that have been deposited in the "composite film", not necessarily the molecule that was used to form the deposit, i.e. the precursor, however it is noted that paragraph [0055] indicates that the pore-former in the composite film may or may not be the same as the pore former introduced into the reaction chamber or in the pore-former reagent (i.e. the precursor), thus there are no apparent support problems with respect to use of "precursor" or the "material" in the various claim sequences.

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2. Claims 8, 14, 53(-54), 57-59, 63-65 & 69-71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, the Markush group is improper since "a laser" is the generic category for a type of UV light source, while "excimer laser", "frequency doubled laser...", etc., are specific species of lasers, thus instead of being mutually exclusive are totally encompassed by the generic category of "a laser". In other words, the specific types/species of lasers would be appropriate in a claim depending from claim 8, where the UV light source species of laser had been chosen.

There are (still) some discrepancies in the claims involving limitations designated as either "material" or "precursor". Specifically note that independent claims 1, 28, 37 & 38, all referred to "...-forming material", while independent claim 42 has both, first introducing "... structure-forming precursor gas", which is further defined by possible materials, and "a pore-former precursor distinct from the at least one structure forming precursor", which after the deposition step to form the composite film are both labeled "...-forming material" as appropriate. Note in claim 14, dependent from independent claim 1, two uses of "the...-former precursor", which lack any antecedent basis or clear connection to the terminology of the independent claim. See an analogous problem in claim 53, dependent from 13, which depends from 1. Except for dependents claimed 54 is identical to claim 53, however as it ultimately depends from claim 42, thus the use of precursor is not incorrect therein, but its relationship to the language claim 53 suggests that applicant may wish to reconsider its nomenclature.

In new claims 57, 63 & 69, the phrasing contains some ambiguous language. First as phrased, "unsaturated cyclic hydrocarbon having a cyclic structure have been the formula..." would mean that the formula belongs to the "cyclic structure", which is part of the overall molecule of the "unsaturated cyclic hydrocarbon", however the details of the formula give a range where the number of carbons included by the cyclic structure would be 4-14 C's, but a further limitation in the claim directed to the overall

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molecule of " the cyclic hydrocarbon" gives the number of carbons as 4-10, which may be less than the number in the component cyclic structure of the overall molecule, which is physically impossible.

Therefore it appears probable that the literal meaning as written this claim is not what is intended, as well as the claim language containing partially contradictory thus indefinite limitations. (Note the language in claim 55 can be considered clear, as the "cyclic hydrocarbon" is described as "having a cyclic structure and the formula..." (emphasis added), instead of referring to the limitation immediately preceding it).

A second ambiguity is in the last three lines of claims 57, 63 & 69, where it is uncertain if both the further limitations on what the compound can contain are optional (separately or as a combination), or if only the first listed limitation is optional and the last limitation of "contains endocyclic...or ...substituents" is required (such as a single substituent that is unsaturated or having "endocyclic unsaturation, but no other ligands). The examiner suspects that they are supposed to be treated as an optional set, with "the hydrocarbon substituents" having antecedent basis from the first "contains..." statement, but is uncertain as "endocyclic unsaturation", which appears to mean an unsaturated bridging link between 2 cyclic groups, does not appear to share in the antecedent basis. Clarification is desirable.

In claims 58, 64 & 70, in the first two lines, see the phrasing "is a one bicyclic hydrocarbon having a bicyclic structure having the formula..." (emphasis added), which produces essentially the same (probably unintended) inconsistency as discussed above, except the phrasing provides two different ranges of numbers of carbon for the bicyclic structure, essentially making $n = 13$ or 14 impossible.

In claims 59, 65 & 71, while the structure & formula relationships are clear (similar phrasing to claim 55), the language of the last three lines of these claims has similar ambiguity as found in claims 50, 57, 63 & 69, concerning whether both or only the first condition after "optionally" is optional.

3. Claim 57-58, 63-64 & 69-70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not

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described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The support cited in the specification ([0056-0061]), while mostly using the language of the new claims, is phrased slightly differently for these claims, since in [0058 & 59] the phrasing in this having... structure and the formula..." instead of as claimed "having...structure having the formula", which gives a different meaning as discussed above. It is noted that making these claims consisted with the language of the specification would remove the 112, second paragraph rejection in section 2 above, because addition of "and" would rearrange what limitation the conditions required by the formula are associated with.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8, 10-15, 22, 25-28, 32-34, 37, 41-45 & 53-72 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 7-14, 16-22 and 25-41 of U.S. patent No. 7,098,149 B2 (previously copending Application No.10/379,466), optionally in view of Rose et al. (6,068,884).

Although the conflicting claims are not identical, they are not patentably distinct from each other because reasons as discussed in sections 5 & 7-8 of action is mailed 5/19/2006 & 9/21/2005, respectively. Furthermore, note that these claims are directed to a deposited film of the same basic structure that may be deposited using identical reagents, which after deposition may be identically treated with ultraviolet radiation, and optionally also heating, where the claim sets differ by the present claims requiring "wherein the composite film is substantially free of Si-OH bonds", however like reagents with undifferentiated deposition techniques will inherently produce the same range of deposited results, hence the patented claims encompass the present claim compositions. Alternately, it would've been obvious to one of ordinary skill in the art to deposit the compositions, which may be deposited by chemical vapor

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deposition techniques, so as to avoid formation of Si-OH bonds, as it is known in the art as discussed by Rose et al. that such functional groups in dielectric materials are undesirable and means of avoiding their formation are known (abstract; figures especially 1, 3 & 4; column 3, line 45-column 4, line 31+ generally; column 5, lines 49-67; column 7, line 43-column 8, line 41, especially lines 10-29). While the low k dielectric films produced by Rose et al. do not discuss porosity, disadvantages of creating Si-OH functionalities would have been expected to be independent of whether the low dielectric constant material was porous or not, hence the desirability of avoiding formation of such bonds would have been independent of the presence of porosity.

6. Claims 1-29, 32, 35, 37-45 & 53-72 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-12, 14-26, 31, 33-34, 39-45 & 50-62 of copending Application No. 10/295,568, optionally in view of Rose et al. as discussed above.

Although the conflicting claims are not identical, they are not patentably distinct from each other because, while options are claimed in some different orders, and independent claims have varied emphases on energy source used with the broader photon source of (295,568) encompassing the UV of the present case, with the exception of the above discussed (section 5) limitation added in the 10/12/2006 amendment, all the same options are present in each set of claims, thus creating obvious variations, as discussed in sections 4 & 6 of the 5/19/2006 & 9/21/2005 rejections, respectively. The limitation of the amendment to present claims is considered inherent &/or obvious for reasons as discussed above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-13, 15-16, 25-29, 32-35, 37-45 & 53-72 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14,

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20-22, 24-27 and 30 of copending Application No. 10/842,503, optionally in view of Rose et al. as discussed above.

Although the conflicting claims are not identical, they are not patentably distinct from each other because while various limitations are claimed in different orders, and with varying degrees of emphasis, the process limitations of these claims overlap in their generics and specific requirements, such that they are obvious variations on each other for reasons as discussed in section 9 in the 9/21/2005 action & above in section 5.

8. Claims 1-29, 32-35, 37-45 & 53-72, or 1-13, 15-29, 32-35, 37-45 & 53-72 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 8-10, 13, 15, 17-18, 20, 22-23 & 61-67, or 1-47 & 50-54 of copending Application No. 10/409,468 & 11/228,223 (\equiv 2006/0078676 A1), respectively, optionally in view of Rose et al.

Although the conflicting claims are not identical, they are not patentably distinct from each other because again, the various limitations in the two applications are claimed in different orders with different emphasizes and phraseology, but overlapping generic and specific requirements, creating obvious variations wherefore for 10/409,468 reasons as discussed in section 11 of the 9/21/2005 action & in section 5 above remain relevant. For SN 11/228,223 noted porogens claimed corresponding to the newly added porogen limiting limitations of claims 54-72 of the present case, which read on the more specific compounds previously claimed, specific matrix material as claimed designated in claimed three of the copending case & methods of posttreatment in claims 50-53 that are inclusive of photon energy having wavelengths in the UV & removal of all porogens, such that the reasoning applied to the (468) case also applies to (223). Also note that for (223), while all specific parameters are not discussed, reasons for obviousness of routine experimentation for optimization of such parameters have been previously

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discussed in the case & may be found below in section 11, and are equally obvious with respect to analogous processes & compensations claimed in this application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claims 1-4, 10, 12, 15, 17-19, 26 & 28-29 are rejected under 35 U.S.C. 102(e or a) as being clearly anticipated by You et al. (2005/0255710 A1).

You et al. teaches a process for making a porous thermoset dielectric material film via use of a solution of polymers deposited by such techniques as spin-coating or casting, where the porogen material is compatible with the host "B-stage thermoset dielectric matrix material", where after deposition and curing of the polymeric matrix material, the porogen is removed without adversely affecting the dielectric material, where typical methods include heat or radiation techniques, where UV light is a preferred radiation method for removing the porogen, and it is specifically taught that UV & heat may be used in combination, under inert atmospheres. Means of providing the heat include heating via microwaves (abstract; [0011-13]; [0018]; [0021-22+]; [0040-59] for porogen compositions; [0074]; [0076] UV with inert atmosphere; & [0080]). While the required matrix material discussed in You et al. (710) is an organic polymeric material, the patent further teaches that this thermoset dielectric matrix material may be mixed with other matrix materials ([0039]), such as organo polysilicas, or carbides, oxides, nitrides and oxyfluorides of silicon, thus teaching inclusion of "at least one silicon-based structure forming material", where the overall combination of materials would not be expected to have any Si-OH bonds, where there is no necessary source of such bonds in the silicon-based matrix materials of silicon carbides & nitrides or the like, nor in the various polymeric materials employed in combination with such materials. Therefore, as the very broad generic claimed structure-forming material descriptions include

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virtually all compositions containing silicon-based material, as long as the specific bond is not present, this disclosure of You et al. (710) is encompassed thereby & and therefore covers the claims.

You et al. discusses choice of porogens, such as the main particle size of the porogens in order to control the dimensions of the poor sizes formed, discussing that the poor sizes are substantially the same size or dimension as the removed porogen particles, with preferred range of mean pore size being 0.75-200 nm, in particular suitable poor sizes including ≤ 10 nm; ≤ 5 nm..., ≤ 2 nm ([0040]; [0071] & [0082)).

10. Claims 37-41 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over You et al. (710).

While You et al. does not discuss the density of their deposit, or the density after porogen removal, or the percent change with respect to density, they do discuss that the pore size is essentially the same as the size of the porogen, as well as discussing preferred weight % after removal of porogens used in the film forming composition and weight % remaining, such that preferred compositions contain 10-80 weight % porogen, or more preferably 15-60 weight % porogen, with 0-20 % by weight of porogen remaining after removal ([0075] & [0077]). Hence, given the weight % of porogen, the amounts removed & the size relationship between pores and porogen particles, the claimed change in densities would appear to be inherently covered, especially considering potential total removal of porogens of significant weight percentages of the total film. Alternately it would've been obvious to one of ordinary skill in the art given these process parameters to employ them in creating porous films with claimed density changes ($\geq 10\%$), as removable of all or up to all but 20% by weight of porogen, with no significant structural dimensional shrinkage after removal, would have been expected to have had similar volume or density relationships.

11. Claims 5-9, 20-25, 27 & 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over You et al (710).

While the patent does not designate specific UV wavelengths to employ for porogen removal, it would've been obvious to one of ordinary skill in the art to employ specific wavelengths which are

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absorbed by the specific porogens desire to be removed or otherwise capable of decomposing the porogen as taught, and as these specifically claimed wavelength ranges are directed to generic porogens with no specific structure or properties, they have no particular significance to all potential porogens in general of the generic claim.

You et al. does not specify specific or UV light sources, however the claim of all types of lasers and most generic categories of UV lamps would have been inclusive of most possible sources that could be chosen to be employed in the process of You et al., hence would've been obvious to one of ordinary skill in the art to employ some source of UV which would almost have to include a source as claimed. Particular apparatus structure for radiation treatment is also not discussed, however to employ in "inert" atmosphere such as nitrogen when exposing to radiation treatment requires some containment technique, such that use of chamber systems and vacuum systems to control atmosphere would have been expected by one of ordinary skill in the art to be employed in order to enable the teachings of You et al (710). It is also noted that the thermal treatments for porogen removal, which as taught may be combined with radiation treatment, explicitly include removal under vacuum, as well as listing "inert" gases inclusive of nitrogen or argon, etc., thus further suggesting to one of ordinary skilled the art the use of such devices in processing, as well as the use of vacuum to affect inert atmosphere techniques.

While You et al. does not discuss any particular time & distance parameters for use of UV radiation for porogen removal, they do teach that the energy flux of the radiation must be sufficiently high to generate a sufficient number of free radicals for the required removal, and they do teach time periods when discussing use of heat of 1-120 minutes ([0075]), and since heat may be combined with UV radiation, it would've been obvious to one of ordinary skill in the art that times for the combined technique would have been expected to be no more than these times, and due to the additional mechanism and energy input considerably less, especially considering the requirement for sufficiently high energy flux. Keeping these general teachings in mind, it would've been obvious to one of ordinary skill in the art

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to employ routine experimentation to determine off the mid-times and light source positions, dependent on specific porogens being treated, as well as specific light sources being used, with the expectation that such optimize values would fall within the broad ranges claimed, as well as the narrower ranges (i.e. shorter times & shorter distances), since the use of light radiation is old and well-known to be useful for increasing efficiency by localized heating or reactions, and since light is old and well-known to be attenuated and dispersed over greater distances.

You et al. while teaching formation of low k (i.e. < 4) dielectric films, they do not teach any specific value ranges for the dielectric constant of such films for, but generally teach that the presence of pores tends to lower the dielectric constants, such that the dielectric constant of the same material with voids is lower than that without voids, that the uniform formation of pores through the dielectric material is important to the dielectric constant value, such that very small pores substantially uniformly dispersed is very effective in reducing the dielectric constant of dielectric materials, with further teaching of uses in integrated circuits' interlayers ([0007]; [0022]; [0080-81]; & [0084-85]), hence it would've been obvious to one of ordinary skill in the art that optimization of both the specific organic & Si-containing dielectric matrix material, along with taught optimization of porogen for pore size and matrix compatibility, would have been expected to be employed to minimize the dielectric constant in order for optimization of integrated circuit interlayer uses, so as to produce dielectric constants within ranges claimed, which are also included by the overall generic range of the taught low k values.

12. Other art of interest includes You et al. (6,271,273 B1), which contains disclosure is similar to the above You et al. (710) reference, but directed to porous organo polysilica dielectric materials, which went clearly specified appear to be formed by hydrolysis techniques, thus in accord with the declaration would have been expected to have Si-OH bonds, although it is noted that the specification of You et al. (273) specifically is not limited to compounds such as Cisco lock Saenz nor to particular cure in techniques such as condensation & hydrolysis, but fails to provide an actual alternative (abstract;

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column 4, line 35- column 5, line 65+). The patent to Carter et al. (5895263) the similarly of interest for forming porous organic polysilica using porogens that may be removed by UV, but structural formation using materials for by hydrolysis or condensation reactions.

Nguyen et al. (2006/0079099 A1), Lukas et al. (2006/0078676 A1), Lu et al. (2005/0123735 A1) & Waldfried et al. (2006/0024976 A1) are of interest for relevant dielectric layer fabrication using porogens, but are not prior art. Harvey et al. (6,566,278 B1) is of interest for teachings concerning deposition of carbon doped silicon oxide films via CVD processes, where deposition gases exemplified by trimethylsilane + ozone are employed, followed by exposure to UV radiation to disrupt and remove undesirable chemical bonds, which well suggested to include Si-OH, the absorption spectra showing as-deposited & post-cured spectra, with reference number one indicating Si-OH, is imperceptibly different from applicants figure 7, as neither shows a peak for this material, although there appears to be a slight variation in inclination of the line for both spectra sets, such that Harvey et al. appears to be removing such ligands from materials which applicant would call substantially free of Si-OH, however Harvey et al. is not directed towards creation of porous materials, but to densifying dielectric materials.

13. Applicant's arguments with respect to claim 1-9, 12, 15, 17-29, 32-35 & 37-41 have been considered but are moot in view of the new ground(s) of rejection.

With the exception of the above obviousness double patenting rejections (both provisional & not provisional), the claims based on independent claim 42 still appear to be allowable, if the obviousness double patenting rejection(s) is (are) each overcome.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

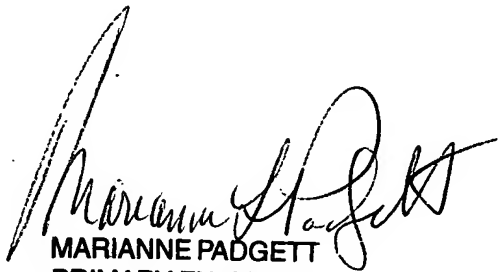
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MLP/dictation software

12/20/2006



MARIANNE PADGETT
PRIMARY EXAMINER